

Application/Control Number: 09/966,352

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**CLMPTO**

**W.M.**

**04/29/04**

1. (previously presented) A method for separating a sample into components by two-dimensional electrophoresis, said method comprising:

a. providing a first electrophoretic separation medium comprising an elongate strip, and a second electrophoretic separation medium, said media being spaced apart and carried on a single support means;

b. with the support means oriented in a generally vertical plane and the first electrophoretic separation medium oriented in a horizontal plane spaced above or below the second electrophoretic separation medium by a gap, carrying out a first dimension separation of a sample mixture in the first electrophoretic separation medium, while the first and second media are separated by a non-electrically conducting liquid which is substantially immiscible with, and non-extractive of, water;

c. after the first dimension separation of step b has been carried out, tilting the support means so that the first electrophoretic separation medium is at an angle to the horizontal and flushing the liquid out from the gap between the first electrophoretic separation medium and the second electrophoretic separation medium; and

d. flowing a liquid buffer containing bridging material into the gap;

e. applying an electric field to transfer sample molecules from the first electrophoretic separation medium to the second electrophoretic separation medium.

2. (original) A method as claimed in claim 1 wherein the first electrophoretic separation medium is at least partly enclosed by a removable metal foil cover which allows the medium to be rehydrated, using a liquid containing the sample to be separated, while the support means is in the vertical orientation.
3. (original) A method as claimed in claims 1 or 2 wherein the non-electrically conducting liquid is paraffin oil.
4. (previously presented) A method as claimed in claim 1 wherein the first electrophoretic separation medium comprises an IPG strip.
5. (previously presented) A method as claimed in claim 1 wherein the second electrophoretic separation medium comprises a gel slab.
6. (previously presented) A method as claimed in claim 1 wherein the support means comprises a generally planar support.
7. (previously presented) A method as claimed in claim 1 wherein the liquid buffer containing bridging material comprises agarose gel containing a buffer.

**8-22 (Canceled)**